

# **Climate and extreme weather events over southern Africa: impacts and challenges on sustainable regional food security**

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High climate variability and the occurrence of extreme weather events are a major concern over southern Africa. The regional impacts of climate variability and extremes, and the prospects for sustainable regional food security were investigated over a long period of time. Rainfall was strongly correlated with El Niño Southern Oscillation (ENSO) anomalies, exhibiting the dipole effect. Regional drought occurrences were associated with ENSO events, while floods were mostly associated with the southward movement of tropical cyclones along the Mozambique Channel and into the sub-region. The study also revealed that climate variability and change are linked to decreasing regional water resources and food security. Considering that economies of most countries in southern Africa are agro-based, increasing incidences of extreme weather events, coupled with climate change are expected to promote severe food shortages and hence, reduce regional economic growth. Improved forecasting methods and adaptation measures are therefore needed to alleviate the regional vulnerability to disastrous climate and extreme weather events.